

**Full Report (All Nutrients) 20011, Buckwheat flour, whole-groat**

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Nutrient values and weights are for edible portion.

**Food Group : Cereal Grains and Pasta****Carbohydrate Factor: 3.78 Fat Factor: 8.37 Protein Factor:3.37 Nitrogen to Protein Conversion Factor:6.25**

Nutrient	Unit	1	Data points	Std. Error	<b>1 cup 120g</b>
		Value Per100 g			
<b>Proximates</b>					
Water	g	11.15	6	0.404	13.38
Energy	kcal	335	--	--	402
Energy	kJ	1402	--	--	1682
Protein	g	12.62	6	0.213	15.14
Total lipid (fat)	g	3.10	6	0.088	3.72
Ash	g	2.54	6	0.161	3.05
Carbohydrate, by difference	g	70.59	--	--	84.71
Fiber, total dietary	g	10.0	--	--	12.0
Sugars, total	g	2.60	--	--	3.12
Sucrose	g	1.70	1	--	2.04
<b>Minerals</b>					
Calcium, Ca	mg	41	4	4.070	49
Iron, Fe	mg	4.06	4	1.473	4.87
Magnesium, Mg	mg	251	4	19.246	301
Phosphorus, P	mg	337	4	101.189	404
Potassium, K	mg	577	4	18.677	692
Sodium, Na	mg	11	--	--	13
Zinc, Zn	mg	3.12	4	0.127	3.74
Copper, Cu	mg	0.515	4	0.090	0.618
Manganese, Mn	mg	2.030	2	--	2.436
Selenium, Se	µg	5.7	1	--	6.8
<b>Vitamins</b>					
Vitamin C, total ascorbic acid	mg	0.0	--	--	0.0

Nutrient	Unit	1			1 cup 120g
		Value Per 100 g	Data points	Std. Error	
Thiamin	mg	0.417	4	0.103	0.500
Riboflavin	mg	0.190	5	0.044	0.228
Niacin	mg	6.150	4	0.528	7.380
Pantothenic acid	mg	0.440	4	0.060	0.528
Vitamin B-6	mg	0.582	5	0.016	0.698
Folate, total	µg	54	8	6.750	65
Folic acid	µg	0	--	--	0
Folate, food	µg	54	8	6.750	65
Folate, DFE	µg	54	--	--	65
Choline, total	mg	54.2	--	--	65.0
Vitamin B-12	µg	0.00	--	--	0.00
Vitamin B-12, added	µg	0.00	--	--	0.00
Vitamin A, RAE	µg	0	--	--	0
Retinol	µg	0	--	--	0
Carotene, beta	µg	0	--	--	0
Carotene, alpha	µg	0	--	--	0
Cryptoxanthin, beta	µg	0	--	--	0
Vitamin A, IU	IU	0	--	--	0
Lycopene	µg	0	--	--	0
Lutein + zeaxanthin	µg	220	--	--	264
Vitamin E (alpha-tocopherol)	mg	0.32	1	--	0.38
Vitamin E, added	mg	0.00	--	--	0.00
Tocopherol, gamma	mg	7.14	1	--	8.57
Tocopherol, delta	mg	0.45	1	--	0.54
Vitamin D (D2 + D3)	µg	0.0	--	--	0.0
Vitamin D	IU	0	--	--	0
Vitamin K (phylloquinone)	µg	7.0	--	--	8.4
<b>Lipids</b>					
Fatty acids, total saturated	g	0.677	--	--	0.812
4:0	g	0.000	--	--	0.000
6:0	g	0.000	--	--	0.000
8:0	g	0.032	--	--	0.038
10:0	g	0.016	--	--	0.019

Nutrient	Unit	1			1 cup 120g
		Value Per 100	Data points	Std. Error	
12:0	g	0.009	--	--	0.011
14:0	g	0.023	--	--	0.028
16:0	g	0.411	--	--	0.493
18:0	g	0.043	--	--	0.052
Fatty acids, total monounsaturated	g	0.949	--	--	1.139
16:1 undifferentiated	g	0.021	--	--	0.025
18:1 undifferentiated	g	0.902	--	--	1.082
20:1	g	0.000	--	--	0.000
22:1 undifferentiated	g	0.011	--	--	0.013
Fatty acids, total polyunsaturated	g	0.949	--	--	1.139
18:2 undifferentiated	g	0.877	--	--	1.052
18:3 undifferentiated	g	0.071	--	--	0.085
18:4	g	0.000	--	--	0.000
20:4 undifferentiated	g	0.000	--	--	0.000
20:5 n-3 (EPA)	g	0.000	--	--	0.000
22:5 n-3 (DPA)	g	0.000	--	--	0.000
22:6 n-3 (DHA)	g	0.000	--	--	0.000
Cholesterol	mg	0	--	--	0
<b>Amino Acids</b>					
Tryptophan	g	0.183	--	--	0.220
Threonine	g	0.482	--	--	0.578
Isoleucine	g	0.474	--	--	0.569
Leucine	g	0.792	--	--	0.950
Lysine	g	0.640	--	--	0.768
Methionine	g	0.164	--	--	0.197
Cystine	g	0.218	--	--	0.262
Phenylalanine	g	0.495	--	--	0.594
Tyrosine	g	0.230	--	--	0.276
Valine	g	0.646	--	--	0.775
Arginine	g	0.935	--	--	1.122
Histidine	g	0.294	--	--	0.353
Alanine	g	0.712	--	--	0.854
Aspartic acid	g	1.078	--	--	1.294

Nutrient	Unit	1			1 cup 120g
		Value Per 100 g	Data points	Std. Error	
Glutamic acid	g	1.948	--	--	2.338
Glycine	g	0.981	--	--	1.177
Proline	g	0.482	--	--	0.578
Serine	g	0.652	--	--	0.782
<b>Other</b>					
Alcohol, ethyl	g	0.0	--	--	0.0
Caffeine	mg	0	--	--	0
Theobromine	mg	0	--	--	0
<b>Flavonoids</b>					
Flavan-3-ols					
(-)Epicatechin <sup>1</sup>	mg	3.0	1	--	3.6
(-)Epicatechin 3-gallate <sup>1</sup>	mg	0.8	1	--	0.9
Flavonols					
Quercetin <sup>1 2 3 4</sup>	mg	3.5	17	0.55	4.2
Proanthocyanidin					
Proanthocyanidin monomers <sup>5</sup>	mg	3.8	1	--	4.5
Proanthocyanidin dimers <sup>5</sup>	mg	46.5	1	--	55.8

<sup>1</sup>Quettier-Eleu, C., Gressier, B., Vasseur, J., Dine, T., Brunet, C., Luyckx, M., Cazin M., Cazin, J-C., Bailleul, F., and Trotin, F. **Phenolic compounds and antioxidant activities of buckwheat (*Fagopyrum esculentum* Moench) hulls and flour.**, 2000 J. Ethnopharmacol. 72 pp.35-42

<sup>2</sup>Kreft, I., Fabjan,N., and Yasumoto, K. **Rutin content in buckwheat (*Fagopyrum esculentum* Moench) food materials and products,** 2006 Food Chemistry 98 pp.508-512

<sup>3</sup>Kreft, S., Knapp, M., and Kreft, I. **Extraction of rutin from buckwheat (*Fagopyrum esculentum* Moench) seeds and determination by capillary electrophoresis.,** 1999 J. Agric. Food Chem. 47 pp.4649-4652

<sup>4</sup>Steadman, K. J., Burgoon, M.S., Lewis, B.A., Edwardson, S., and Obendorf, R.L. **Minerals, phytic acid, tannin and rutin in buckwheat seed milling fractions.,** 2001 J. Sci. Food Agric. 81 pp.1094-1100

<sup>5</sup>Quettier-Deleu, C., Gressier, B., Vasseur, J., Dine, T., Brunet, C., Luyckx, M., Cazin, M., Cazin, J.-C., Bailleul, F., and Trotin, F. **Phenolic compounds and antioxidant activities of buckwheat (*Fagopyrum esculentum* Moench) hulls and flour.,** 2000 Journal of Ethnopharmacology 72 pp.35-42

#### Langual Code(s)

- A0149 MILLED GRAIN OR STARCH PRODUCT (US CFR)
- A1290 2000 CEREAL GRAINS AND PASTA (USDA SR)
- B1405 BUCKWHEAT
- C0133 SEED, SKIN PRESENT, GERM PRESENT
- E0106 FINELY GROUND
- F0001 EXTENT OF HEAT TREATMENT NOT KNOWN
- G0003 COOKING METHOD NOT APPLICABLE
- H0138 WATER REMOVED
- J0116 DEHYDRATED OR DRIED
- K0003 NO PACKING MEDIUM USED
- M0001 CONTAINER OR WRAPPING NOT KNOWN
- N0001 FOOD CONTACT SURFACE NOT KNOWN
- P0024 HUMAN FOOD, NO AGE SPECIFICATION